

NEW ABSTRACT

A display device with directional backlight produces stereoscopic images by emitting light in two angular cones. Light is alternatively sent to the left and to the right eye of the observer synchronously with switching between images for the left and the right eye on a fast switching LCD. Alternatively, images may be produced for two or more observers and directed towards different directions. The display device includes a display panel, a light redirection element for directing light through the display panel, and a light guide for directing light towards the light redirection element. Two light sources are coupled to the light guide so as to couple light into the light guide in two directions. The light redirection element has a first groove structure and the light guide has a second groove structure so that light from the light sources are directed through the display panel with two angular distributions.